2015-05-16, Peter Fritzson.

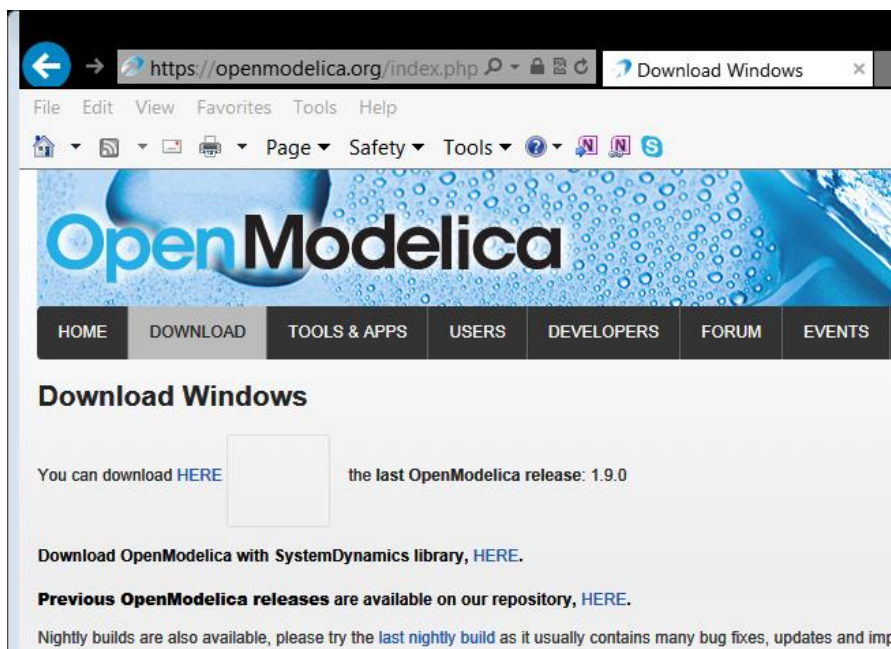**Very short instruction to simulating World3 with OpenModelica**

The *best* reference to World3 with explanation of the different scenarios is the very well written and easy to read book: Meadows Donella, Jorgen Randers, and Denis Meadows. *Limits to Growth: The 30-Year Update*. 368p. Chelsea Green, 2004, e.g. available at Amazon.

A follow-up book without updated scenarios based on the above as background: Ugo Bardi: The *Limits to Growth Revisited*. Springer, 2011. A follow-up web site: http://limits2growth.org.uk/revisited/

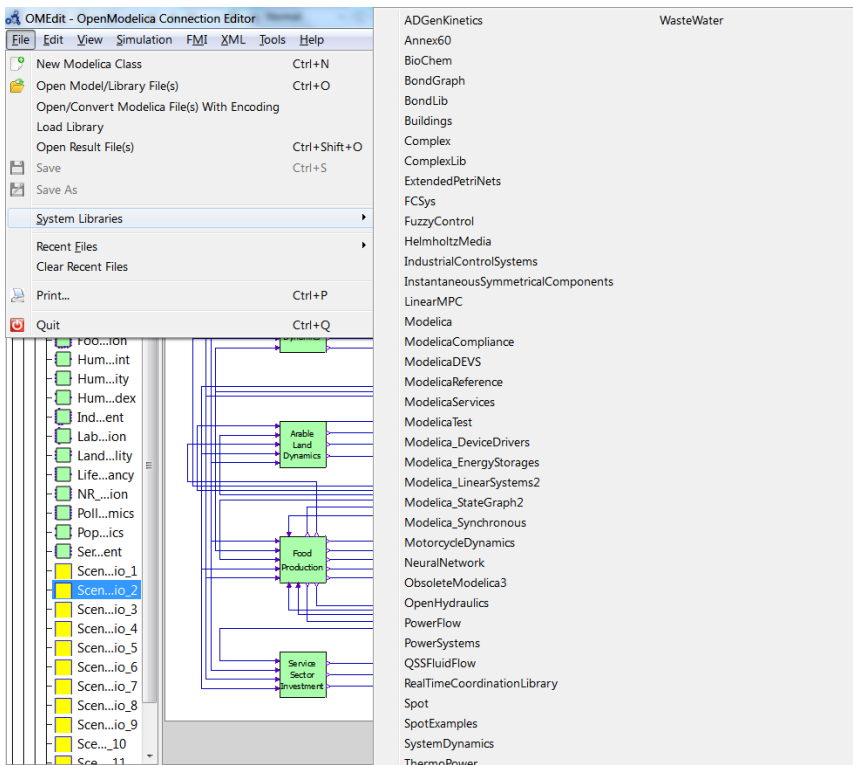A related book: Jorgen Randers. 2052: A Global forecast for the Next 40 Years. 2012.

A paper presenting scenarios from very simple world models to World3: Rodrigo Castro, Peter Fritzson, François Cellier, Safa Motesharrei, and Jorge Rivas. Human-nature interaction in world modeling with Modelica. In *Proc. of the 10th Int. Modelica Conference*, Lund, March 10-12. Linköping University Electronic Press, March 2014. [DOI]

Visit www.openmodelica.org to download OpenModelica with the system dynamics library included:
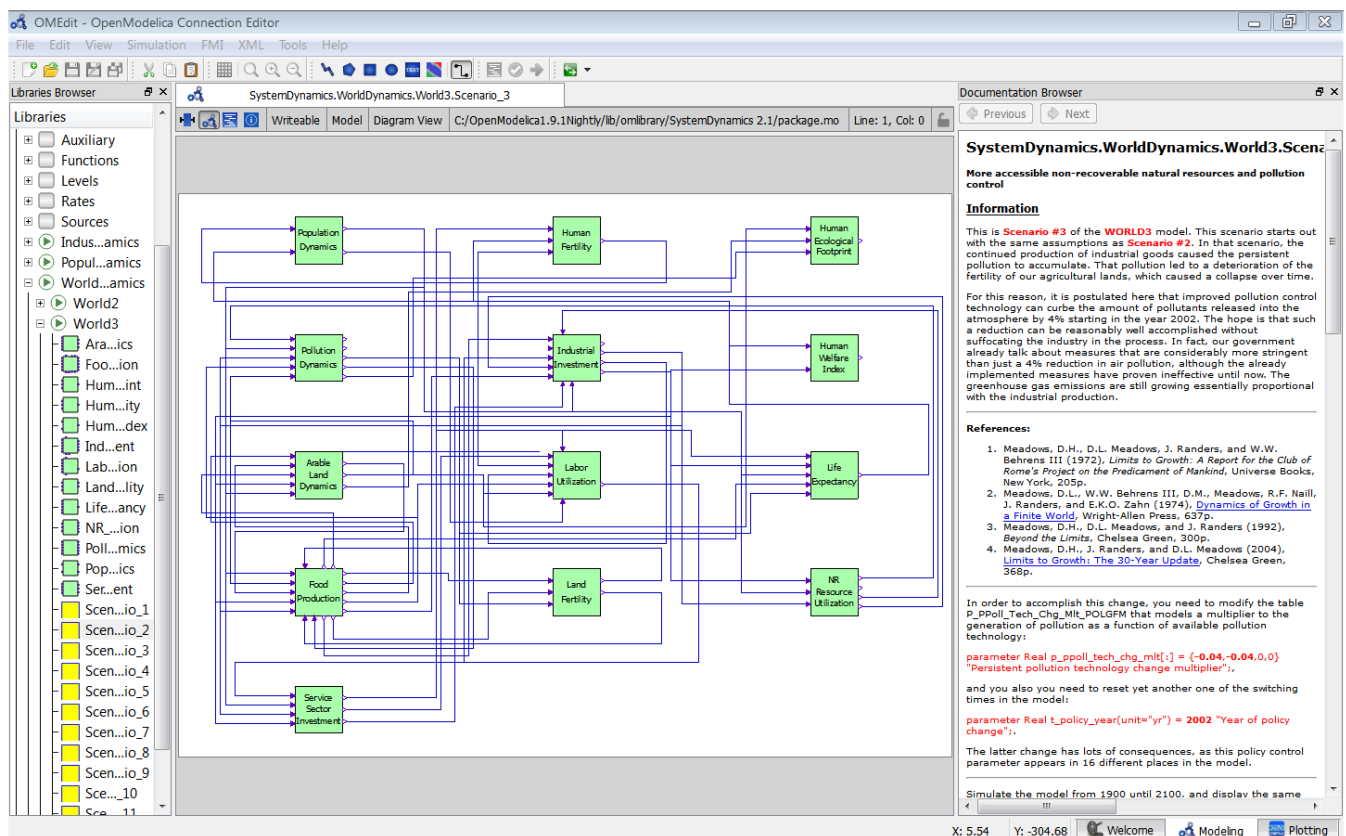

Start OpenModelica connection editor (OMEdit). In the File pulldown menu select System Libraries.
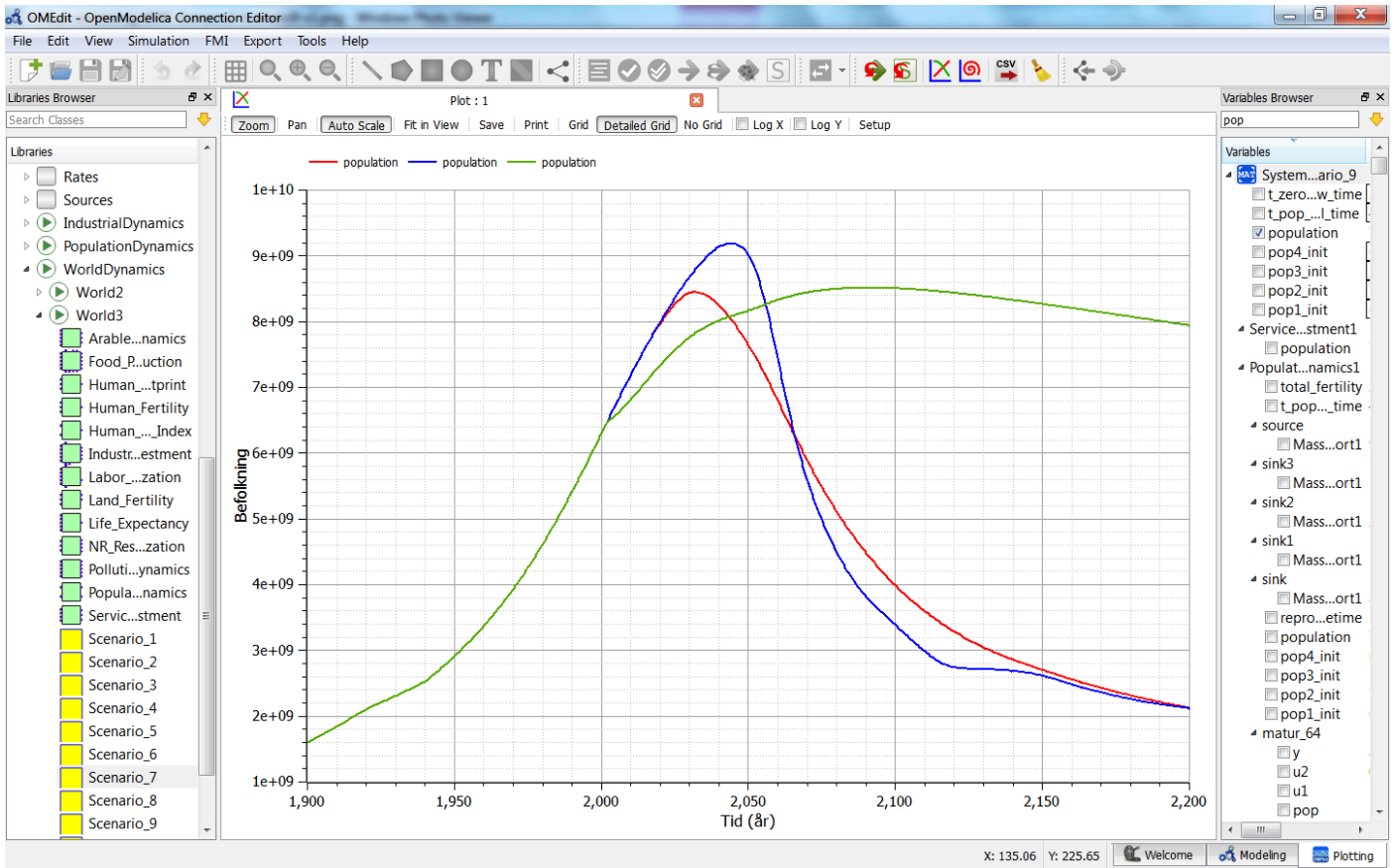
Select the SystemDynamics library among the system libraries (far down in the list):

Select WorldDynamics, World3 and one of the scenarios, e.g., Scenario1. Click on the right-arrow (->) simulate button (top row) to simulate. To also simulate some other scenario, click on that one and click the simulate button.

To plot, click on one or more of the variables in the right window. You can search for population by typing popul You can simulate several scenarios and plot one or more variable from each simulation in the same diagram. Below the world population is shown from Scenario1, Scenario2, Scenario9, where Scenario9 is the only one without collapse.

The figure below is showing the world population from Scenario1, Scenario2, Scenario3.